



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

09/909,542

07/19/2001

Sheng Li

3442P015

1961

8791

7590

05/15/2007

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

HAILE, FEBEN

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

05/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 09/909,542 | | LI, SHENG | |
| | Examiner | | Art Unit | |
| | Feben M. Haile | | 2616 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In view of applicant's amendment filed February 20, 2007, the status of the application is still pending with respect to claims 1-21.
2. The amendment filed is insufficient to overcome the rejection of claims 1-6 and 8-21 based upon Varsa (US 2003/0140347) as set forth in the last Office action because: Applicants arguments are not persuasive.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-21 rejected under 35 U.S.C. 103(a) as being unpatentable over by Varsa (US 2003/0140347), hereinafter referred to as Varsa.

Regarding claim 1, Varsa discloses the limitations: distributing data frames among data packets (**abstract**) comprising assigning a plurality of consecutive data frames to different data packets (**page 4 paragraph 0043 and figure 2a; a frame, i.e. T0-T3, has 9 slices, where each slice is interleaved into 1 of 4 different packets**), each data packet including data frames that are sufficiently far apart such that loss of any particular data packet distributes impact that the loss has on quality of recovered

data (page 2 paragraph 0020; constructing a packet from video units in such a way that the loss of a packet doesn't cause loss of too large of a continuous area of video frame/sequence for efficient concealment), said assigning preventing each data packet from including consecutive data frames (page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet, thus each packet has no consecutive slices), and wherein a data packet includes a packet header and each of the data frames included in the data packet is associated with the packet header (figure 3; once the packet is completely formed using the slices, a header is attached); and individually sending each data packet with assigned frames (figure 5 and page 5 paragraph 0051; once each packet is completely formed, it is channel coded and transmitted).

Although the interleaving method operates with units smaller than a frame, it would have been obvious to one having ordinary skill in the art at the time the invention was made that Varsas frames and slices could be interpreted as the instant applications packets and frames, respectively. The motivation is to produce a method and system in which possible errors in transmission does not deteriorate the quality of a video signal.

Regarding claim 2, Varsa discloses the limitations: packing said each data packet with assigned frames (page 5 paragraph 0050; a packetization algorithm is used to interleave the slices of the frame into packets).

Regarding claim 3, Varsa discloses the limitations: wherein said each data packet includes data frames that are at least two frames apart (page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet).

Regarding claim 4, Varsa discloses the limitations: wherein said data frames are audio frames (**page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, and data information**).

Regarding claim 5, Varsa discloses the limitations: wherein said assigning distributes data frames into different packets at a uniform interval (**page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet**).

Regarding claim 6, Varsa discloses the limitations of the base claim.

Furthermore, Varsa suggests a packetization algorithm is used to interleave the slices of the frame into packets (**page 5 paragraph 0050**).

It would have been obvious to one having skill in the art at the time the invention was made to increase Varsa's every 4th interval to 5. The motivation being to amplify the gap between frames in a packet to decrease the impact that a lost packet would have on the quality of recovered data.

Regarding claim 8, Varsa discloses the limitations: wherein said assigning plurality of consecutive data frames includes assigning a current data frame of said plurality of consecutive data frames to a packet that is at least two packets away from a packet that contains a previous data frame (**page 4 paragraph 0043 and figure 2a; since every 4th slice in the frame is interleaved into the same packet, each packet has no consecutive slices**).

Regarding claim 9, Varsa discloses the limitations: distributing data frames of a multimedia entity (**abstract**) comprising distributing the data frames among a plurality of

data packets, each data packet including the data frames from different parts of the multimedia entity (**page 4 paragraph 0043 and figure 2a; a frame, i.e. T0-T3, has 9 slices, where each slice is interleaved into 1 of 4 different packets**), where said data frames from different said plurality of data packets parts are sufficiently spread out among to reduce the impact of a packet consecutive data frames into loss on quality of recovered data compared to packing sequential data packets (**page 2 paragraph 0020; constructing a packet from video units in such a way that the loss of a packet doesn't cause loss of too large of a continuous area of video frame/sequence for efficient concealment**), said distributing preventing each data packet from including consecutive data frames (**page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet, each packet has no consecutive slices**); and individually sending each data packet over a network to a destination node (**figure 5 and page 5 paragraph 0051; once each packet is completely formed, it is channel coded and transmitted**).

Although the interleaving method operates with units smaller than a frame, it would have been obvious to one having ordinary skill in the art at the time the invention was made that Varsas frames and slices could be interpreted as the instant applications packets and frames, respectively. The motivation is to produce a method and system in which possible errors in transmission does not deteriorate the quality of a video signal.

Regarding claim 10, Varsa discloses the limitations: wherein said multimedia entity includes a video frame (**page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, or data information**).

Regarding claim 11, Varsa discloses the limitations: wherein said multimedia entity includes a graphical image (**page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, and data information**).

Regarding claim 12, Varsa discloses the limitations: wherein said sufficiently spreading out includes packing a data packet with data frames that are at least two frames apart (**page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet**).

Regarding claim 13, Varsa discloses the limitations of the base claim.

Furthermore, Varsa suggests a packetization algorithm is used to interleave the slices of the frame into packets (**page 5 paragraph 0050**).

It would have been obvious to one having skill in the art at the time the invention was made to increase Varsa's every 4th interval to 5. The motivation being to amplify the gap between frames in a packet to decrease the impact that a lost packet would have on the quality of recovered data.

Regarding claim 14, Varsa discloses the limitations: a frame distribution component (**abstract**) comprising: a processor configured to assign a plurality of consecutive data frames to different data packets (**page 4 paragraph 0043 and figure 2a; a frame, i.e. T0-T3, has 9 slices, where each slice is interleaved into 1 of 4 different packet**), preventing each data packet from including consecutive data frames (**page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet, each packet has no consecutive slices**), wherein each data packet is to include data frames that are sufficiently far apart such that loss of any

particular data packet distribute impact that the loss has on quality of recovered data **(page 2 paragraph 0020; constructing a packet from video units in such a way that the loss of a packet doesn't cause loss of too large of a continuous area of video frame/sequence for efficient concealment)**; and a packetizer to pack a current frame into a data packet assigned by said processor **(page 5 paragraph 0050; a packetization algorithm is used to interleave the slices of the frame into packets)**; and a packet-switched network over which each data packet is individually sent to a destination node **(figure 5 and page 5 paragraph 0051; once each packet is completely formed, it is channel coded and transmitted)**.

Although the interleaving method operates with units smaller than a frame, it would have been obvious to one having ordinary skill in the art at the time the invention was made that Varsas frames and slices could be interpreted as the instant applications packets and frames, respectively. The motivation is to produce a method and system in which possible errors in transmission does not deteriorate the quality of a video signal.

Regarding claim 15, Varsa discloses the limitations: wherein said data frames are audio frames **(page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, or data information)**.

Regarding claim 16, Varsa discloses the limitations: wherein said data packet includes data frames that are at least two frames apart **(page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet)**.

Regarding claim 17, Varsa discloses the limitations: a data packetizer component **(figure 5 unit 4)** comprising: a frame receiving element arranged to receive

a sequence of data frames including consecutive parts of a segmented data entity **(abstract)**; and a frame assigning element arranged to assign a current data frame in said sequence of data frames to one of a plurality of data packet, preventing each data packet from including consecutive data frames **(page 4 paragraph 0043 and figure 2a; a frame, i.e. T0-T3, has 9 slices, where each slice is interleaved into 1 of 4 different packet)**, wherein said frame assigning element assigns frame to the data packet different from a data packet containing a previous data frame **(page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet, each packet has no consecutive slices)**; and a packet switched network over which each data packet is individually sent to a destination node **(figure 5 and page 5 paragraph 0051; once each packet is completely formed, it is channel coded and transmitted)**.

Although the interleaving method operates with units smaller than a frame, it would have been obvious to one having ordinary skill in the art at the time the invention was made that Varsas frames and slices could be interpreted as the instant applications packets and frames, respectively. The motivation is to produce a method and system in which possible errors in transmission does not deteriorate the quality of a video signal.

Regarding claim 18, Varsa discloses the limitations: wherein said segmented data entity is a video frame **(page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, or data information)**.

Regarding claim 19, Varsa discloses the limitations: wherein said segmented data is an audio sequence (**page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, or data information**).

Regarding claim 20, Varsa discloses the limitations: a frame packing element to pack data frames into assigned data packets (**page 5 paragraph 0050; a packetization algorithm is used to interleave slices of the frame into packets**).

Regarding claim 21, Varsa discloses the limitations of the base claim.

Furthermore, Varsa suggests a fixed or random pattern of interleaving slices of a frame into packets (**page 6 paragraph 0065**).

It would have been obvious to one having skill in the art at the time the invention was made that Varsa's fixed or random pattern could have been a Gaussian distribution. The motivation being Gaussian distribution deals with probability and probability deals with certain (fixed) or uncertain (random) patterns, which Varsa fairly suggests.

Response to Arguments

4. Applicant's arguments filed February 20, 2007 have been fully considered but they are not persuasive.

The Applicant respectfully traverses that there is nothing in Varsa that describes or suggests preventing each data packet from including consecutive data frames. The Examiner respectfully disagrees with the Applicant. Varsa discloses a method and system for transmitting video images that comprise frames divided into slices, where consecutive frames are interleaved into different packets (**abstract**). Although the

interleaving method operates with units smaller than a frame, it would have been obvious to one having ordinary skill in the art at the time the invention was made that Varsas frames and slices could be interpreted as the instant applications packets and frames, respectively. The functionality of both inventions effectively produce a method and system in which possible errors in transmission does not deteriorate the quality of a video signal. Therefore as the claims are interpreted in their broadest sense, the Examiner believes that Varsa indeed does render the Applicant's invention obvious.

Furthermore, the Applicant respectfully traverses that the obvious rejection in view of Varsa was based on impermissible hindsight. The Examiner respectfully disagrees with the Applicant. It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. However, as long as it takes into account only the knowledge that is within the level of ordinary skill at the time the claimed invention was made, the reconstruction is proper. Therefore as the claims are interpreted in their broadest sense, the Examiner believes that Varsa indeed does render the Applicant's invention obvious.

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

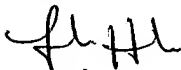
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not


mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


05/01/2007


DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600